User Guide

Millex®-FG Hydrophobic Filter

- Single use only
- Sterile
- Non-pyrogenic

SLFGR25LS

For research use only.

Indications for Use/Purpose

The bidirectionally supported Millex®-FG is a device intended for use as a syringe filter to sterilize and/or clarify low volume solutions to remove fine particles from organic and aqueous solutions or for air and gas venting and filtration applications.

Introduction

The bidirectionally supported Millex®-FG device is a sterilizing filter for gases and liquids that are not compatible with standard membrane filters. It will remove microorganisms, particles, precipitates, and undissolved powders larger than 0.2 micron (µm). The sterile Millex®-FG filter is non-pyrogenic and non-toxic. This single-use product consists of a 0.2 µm hydrophobic Fluoropore™ membrane filter sealed in a polyvinyl chloride (PVC) housing. Typical applications include the sterile filtration of alcohols, concentrated acids and bases, and air or gas.

Millex® filters with hydrophobic Fluoropore™ membrane are ideal for sterilizing gases, venting sterile containers, and sterilizing or clarifying organic solutions.

Chemical Compatibility

The Millex®-FG filter is compatible with mild organic and organic aqueous solutions or air and gas. It may be used to filter the agents listed below. This guide has been developed from technical publications, materials suppliers, and laboratory tests, and is believed to be reliable. However, because of variability in temperature, concentrations, duration of exposure, and other factors outside of our control, no warranty is given or is to be implied with respect to such information. Agents not listed below should be tested with the Millex®-FG filter prior to use.

Acetic acid (glacial)
Acetic acid (5%)
Aliphatic ethers
Ammonium hydroxide (6 N)
Amyl acetate
Amyl alcohol
Benzyl alcohol (1%)
Boric acid
Brine (sea water)
Butyl alcohol
Carbon tetrachloride
Ethyl alcohol
Ethylene glycol
Formaldehyde
Freon® solvent, Trichlorotrifluoroethane (TF) or Precision Cleaning Agent (PCA)
Glycerine (glycerol)
Helium (gas)
Hexane
Hydrofluoric acid
Hydrogen (gas)
Hydrogen peroxide (3%)
Hypo (photo)
Isobutyl alcohol
Isopropyl alcohol
Methyl alcohol
Mineral spirits
Nitrogen (gas)
Paraldehyde
Pentane
Petroleum based oils
Petroleum ether
Phenol (0.5%)
Pyridine
Silicone oils

Directions for Use

WARNINGS

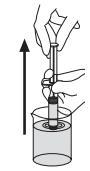
- To ensure sterility, do not use this product if the package is damaged.
- Do not use the Millex® 25 mm syringe filter for direct patient care applications; it is designed for laboratory use only.
- Do not use with syringes smaller than 10 mL because pressures in excess of the maximum pressure rating may be reached, potentially causing damage to the filter unit and/or personal injury.

CAUTIONS

- Do not resterilize or reuse the Millex®-FG filter, as the company cannot assure the sterility, integrity, and performance beyond a single use.
- Do not use the Millex®-FG filter at temperatures above 45 °C (113 °F).
- Do not use the same Millex®-FG filter to filter solutions in both directions.
- Do not use the Millex®-FG filter to filter emulsions or suspensions.
- Do not use the Millex®-FG filter to filter 5 mg or less of protein-containing solutions or reactive materials unless binding studies have been performed.
- Do not reuse the syringe filter.
- When used to protect a vacuum system, the Millex®-FG filter may become momentarily inoperable if aqueous fluid completely fills the housing. To clear the unit, disconnect it from the upstream Luer connection and aseptically apply air pressure with a syringe.
- If using the Millex®-FG filter with a vacuum or air system, attach the appropriate Luer adapters to the vacuum or air system tubing.

If using the Millex®-FG filter as a syringe filter, follow the directions below. When filtering aqueous solutions (acids, bases), filter 10 mL of ethanol or methanol through the unit to wet the hydrophobic filter. Discard the first 2–3 mL of filtered solution to prevent alcohol contamination.

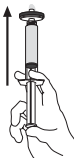
1. Fill syringe with solution to be filtered.



2. Aseptically remove cover from package.

3. Attach syringe to filter and remove assembly from package. Attach needle to Luer-slip outlet if necessary.

4. Hold syringe with filter (and needle if attached) pointing up and top off by pushing a few drops through. Do not contaminate underside of filter with fingers.



5. Insert needle (if attached) and push plunger to deliver filtered solution.

Specifications

Materials	
Membrane	Hydrophobic Fluoropore™ (PTFE) polytetrafluoroethylene, type FG
Pore size	0.2 µm
Housing	Polyvinyl chloride (PVC)
Dimensions	
Inlet to outlet	25 mm
Diameter	29 mm (1.14 in.)
Filtration area	4 cm^2 (0.62 in^2)
Temperature limit	45 °C (113 °F)
Pressure limit at 21 °C	5.2 bar (75 psi) inlet and differential maximum
Filtration volume	1 mL to 100 mL
Hold-up volume	≤ 0.1 mL after air purge
Sterilization method	Ethylene oxide gas
Connections	Female Luer-Lok™ inlet Male Luer-slip outlet

Symbol Definitions

Symbol	Definition	Symbol	Definition
REF	Catalogue number		Date of manufacture
	Do not reuse		Manufacturer
	Use-by date		Do not use if package is damaged
LOT	Batch code	STERILE EO	Sterilized using ethylene oxide

Notice

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